

## Guidelines for Well-written Student Learning Outcome Statements

**1. Outcomes must measure something useful and meaningful.** The evidence produced by the outcome measure will be useful in developing and **improving student learning** in the course and program.

**2. Outcomes must be consistent** with program goals, core curriculum outcomes and university mission.

**3. Outcomes must be measurable.** Use verbs that specify the trait, ability, behavior, or habit of mind you will assess with the class assignments. Be sure that each outcome is going to be tested at least once.

**Example:**

- Do not use, “students will understand....;”
- Choose a verb that allows you to measure their understanding. If students understand a concept, they should be able to describe a phenomenon, explain a process, identify key elements, etc. And in many cases they should be able to apply understanding in a variety of ways (listed below). These verbs can link the desired understanding to an assignment that measures what they have learned.

**4. Outcomes must be explicitly stated in terms of what students can do.** Use **active verbs (below)** to describe what **students** will be able to do when they successfully complete the course activities. Care must be taken to avoid listing what the instructor plans to do, but instructor goals can be converted into student learning outcomes as shown below:

Faculty Course Objective – faculty planning, program planning	<b>Student Learning Outcome – on the Syllabus</b>
To demonstrate --- to students	Students will be able to describe, explain, review, ....
To introduce student to -----	Students will recognize, identify, ....
To teach students to understand --	Students will be able to describe, explain, ....

### **ACTIVE VERBS for LEARNING OUTCOME STATEMENTS – Bloom’s Taxonomy**

The action verbs below are considered measurable and suitable for use in the development of student learning outcome statements. Using these action verbs will help assure that the student learning outcome can be measured. The categories presented below proceed from the simplest forms of knowing to the most complex forms. In general, more complex forms of action verbs (higher stages of Bloom’s Taxonomy) should be associated with upper division courses at the undergraduate level, in addition to graduate-level courses. Bloom’s Taxonomy is a hierarchical sequence; and therefore, being able to “analyze” for example (level four) assumes that the learner can already perform at the lower levels (knowledge, comprehension, application) of the Taxonomy.

#### **I. Knowledge**

**Verbs:** define, identify, label, list, name, state, match, recognize, locate, memorize, quote, recall, reproduce, tabulate, tell, copy, discover, duplicate, enumerate, listen, observe, omit, read, recite, record, repeat, retell, visualize

#### **II. Comprehension [or understanding] of new material**

<b>Verb</b>	<u>Appropriate testing/ measurement of learning</u>
Classify.....	Sort a random list into appropriate groups
Describe.....	Write or orally describe a phenomenon or concept
Discuss.....	Write or orally discuss a phenomenon or concept

Explain .....	Write or orally explain a phenomenon or concept
Express .....	Choose appropriate language or symbols to express a concept (e.g. write a poem or paint a picture evoking sadness)
Identify.....	Choose an appropriate answer in a multiple choice test
Indicate.....	Choose an appropriate answer in a multiple choice test
Locate .....	Pinpoint a site on a map or label a diagram (e.g., skeleton)
Restate .....	Re-write or explain a concept in their own words
Review.....	Present a summary

Paraphrase, summarize, extend, associate, convert, infer, translate, ask, cite, discover, generalize, give examples, group, observe, order, report, represent, rewrite, show, trace, transform

### III. Application of new knowledge or skills

#### **Verb** Appropriate testing/ measurement of learning

Apply.....	Use knowledge to accomplish a task
Calculate .....	Use mathematical reasoning to determine a quantity, etc.
Dramatize .....	Use role-playing to illustrate a concept
Illustrate .....	Use drawings to explain, show a process, etc.
Practice .....	Use knowledge to follow established procedures and refine a skill
Schedule .....	Use knowledge to develop a timeline and plan to accomplish a task
Use .....	Employ tools and techniques appropriately

Modify, change, choose, discover, experiment, sketch, complete, interpret, manipulate, paint, prepare, teach, act, administer, articulate, chart, collect, compute, determine, develop, employ, establish, interview, judge, operate, schedule, simulate, transfer, write

### IV. Analyze (part of critical thinking)

#### **Verb** Appropriate testing/ measurement of learning

Analyze .....	Describe parts, organization, functions – such as a process
Categorize.....	Place items in appropriate general groups based on similarities
Compare .....	Identify the similarities between 2 or more items, concepts, etc
Examine .....	Methodically scrutinize something to determine facts
Experiment, test .....	Try out something to determine an unknown or whether something is effective
Differentiate, .....	Show how 2 or more items are dissimilar and distinct
Plan .....	Write/describe a procedure to accomplish a goal before beginning it
Solve .....	Use mathematical or scientific reasoning to determine an unknown

Compare, distinguish, separate, select, connect, discriminate, divide, point out, prioritize, subdivide, divide, survey, advertise, break down, correlate, deduce, devise, diagram, dissect, focus, illustrate, question

### V. Evaluation of concepts, alternatives (part of critical thinking)

#### **Verb** Appropriate testing/ measurement of learning

Appraise, assess.....	Describe and judge the value or quality of something based on reasoning
Evaluate, judge	
Critique.....	Describe the relative merits of something based on criteria
Rate, score .....	Assign a numeric value or ranking that indicates quality
Choose, select best...	Use established criteria to identify the optimal alternative from good options
Argue .....	Describe reasons and present evidence for a point of view (written exam question)
Estimate .....	Present a general calculation or anticipated cost or effect of something

Reframe, criticize, support, decide, recommend, convince, defend, find errors, grade, measure, predict, rank, test, conclude, critique, editorialize, justify, persuade, weigh

**VI. Create** (part of critical thinking)

**Verb**                      Appropriate testing/ measurement of learning

Formulate ..... Express [oral, written] in a systematic way a theory or plan

Compose, Design.... Create an artifact (picture, poem, music, etc.) in order to communicate

Arrange, Organize.... Write a detailed plan/ arrangement to manage a problem

Propose..... Present a written plan with rational and arguments for its adoption

Hypothesize, substitute, construct, invent, integrate, produce, role-play, anticipate, adapt, assemble, collaborate, facilitate, imagine, intervene, manage, negotiate, originate, schematize, speculate, validate, structure